

Completed Return-On-Investment Project Case Study



United States Department of Energy
Office of Environmental Management
Fact Sheet

Beneficial Reuse Program Savannah River Site, South Carolina

Original Problem

The DOE Complex has millions of pounds of contaminated metal contained in excess equipment and components. The metal, if not reused or recycled, will have to be declared waste and disposed as radioactive waste at a cost of millions of dollars.

SRS has over 10 million pounds of contaminated stainless steel components. Because of the value and durability (resistance to rusting) of stainless steel a demonstration to determine the ability to fabricate useful products to be used by the DOE was recommended.



The ROI Project Solution

A Stainless Steel Beneficial Reuse Demonstration was undertaken by SRS, in conjunction with two commercial (NRC licensed) companies. Over 200 tons of radioactively contaminated stainless steel items were melted and reformed into usable products.

DOE Monetary Benefits

Cost	\$2 million
Lifecycle Savings	NA (Demonstration)
Return on Investment	NA

Value Of Improvement

The processing of the contaminated stainless steel proved that products could be fabricated for reuse. Contaminated stainless steel from another site was integrated into the program. Products were distributed to Los Alamos, Oak Ridge, Hanford, and the Idaho National Engineering and Environmental Laboratory.

Lifecycle Waste Reduction

Life Cycle Waste Reduction	200 tons
Operation Commencement Date	1994
Project Useful Life (Years)	NA

Benefits At-A-Glance

- Provided proof of technology and program effectiveness
- Results:
 - 16 boxes (100 ft³) fabricated
 - 300 drums (55-gallon) fabricated
 - 300 drums (85-gallon) fabricated
 - 40 special (8 ft³) containers fabricated
 - 100 heavy water storage drums fabricated
 - 650 shielding bricks fabricated

Building Upon An Office of Science and Technology Demonstration Success

Beneficial Reuse Program

Savannah River Site, South Carolina

Summary Data

ROI Priority Area:	Waste Management
ROI Project Type:	Other (Waste Treatment & Recycle)
Project Cost:	\$2 Million
Lifecycle Savings:	NA (Demonstration)
Implementing Group:	OSTD
Benefiting Group:	EM
Useful Life Years:	EM
Return On Investment:	Not Calculated
Lifecycle Waste Reduction:	200 tons of contaminated metal
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